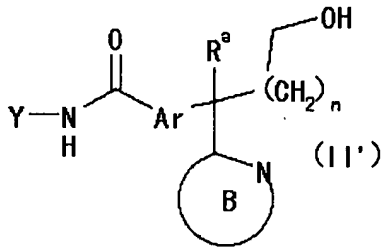
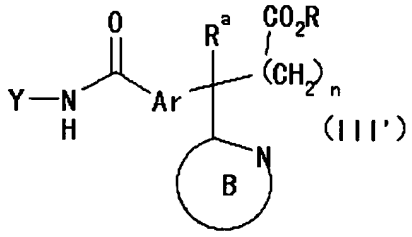
In the Claims

The Examiner is respectfully requested to amend the claims to read as follows. The Examiner is requested to please add New claims 43-49.

1. (ORIGINAL) A process for producing a compound represented by the general formula (II'):

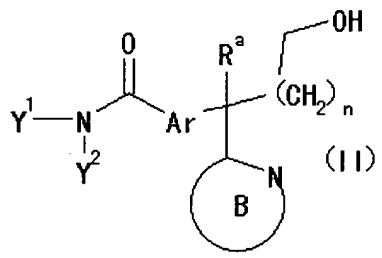


wherein R is an ester residue, R^a is a hydrogen atom or a substituent, Ar is an aromatic hydrocarbon group which may have a substituent, Y is a hydrogen atom or a substituent, a ring B is a nitrogen-containing ring which may have a substituent, n is an integer of 1 to 3 or a salt thereof, which comprises reducing a compound represented by the general formula (III'):



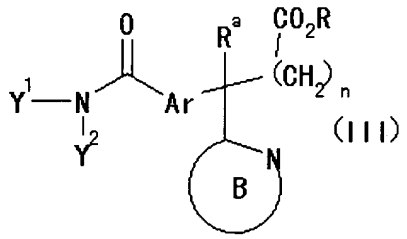
wherein each symbol is defined above or a salt thereof.

2. (ORIGINAL) A process for producing a compound represented by the general formula (II):



(II)

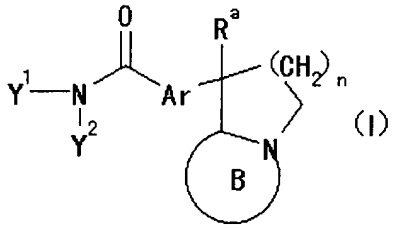
wherein R is an ester residue, Ra is a hydrogen atom or a substituent, Ar is an aromatic hydrocarbon group which may have a substituent, Y1 and Y2 are, the same or different and independently, a hydrogen atom or a substituent, a ring B is a nitrogen-containing ring which may have a substituent, n is an integer of 1 to 3 or a salt thereof, which comprises reducing in the presence of a metal hydride complex and a metal halide compound a compound represented by the general formula (III):



(III)

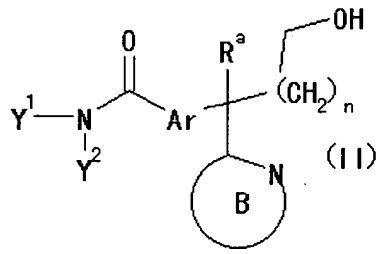
wherein each symbol is defined above or a salt thereof.

3. (ORIGINAL) A process for producing a compound represented by the general formula (I):



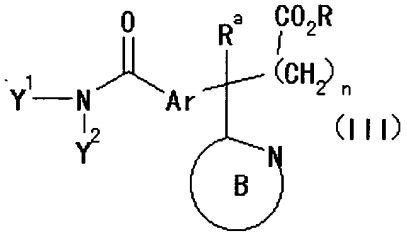
(I)

wherein R is an ester residue, Ra is a hydrogen atom or a substituent, Ar is an aromatic hydrocarbon group which may have a substituent, Y1 and Y2 are, the same or different and independently, a hydrogen atom or a substituent, a ring B is a nitrogen-containing ring which may have a substituent, n is an integer of 1 to 3 or a salt thereof, which comprises obtaining a compound represented by the general formula (II):



(II)

wherein each symbol is defined above or a salt thereof by reducing a compound represented by the general formula (III):

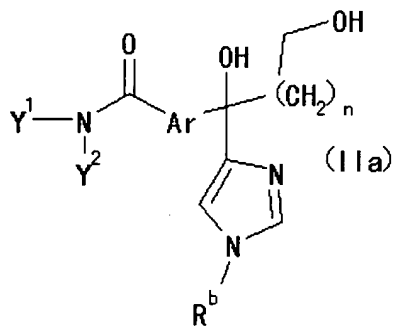


(III)

wherein each symbol is defined above or a salt thereof in the presence of a metal hydride complex and a metal halide compound, and then subjecting the compound represented by the general formula (II) to a ring-closing reaction.

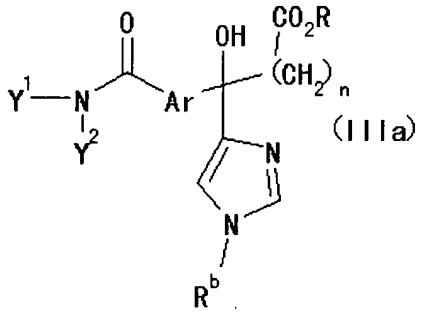
4. (AMENDED) The process according to ~~any one of~~ claim~~s~~ 1 ~~to 3~~, wherein the ring B is a heterocyclic ring which may have a substituent and one to three heteroatoms arbitrarily selected from a nitrogen atom, a sulfur atom and an oxygen atom other than the nitrogen atom indicated in the formula.

5. (ORIGINAL) A process for producing a compound represented by the general formula (IIa):



(IIa)

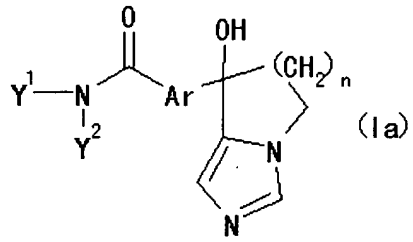
wherein R is an ester residue, Ar is an aromatic hydrocarbon group which may have a substituent, Y1 and Y2 are, the same or different and independently, a hydrogen atom or a substituent, Rb is a protection group, n is an integer of 1 to 3 or a salt thereof, which comprises reducing a compound represented by the general formula (IIIa):



(IIIa)

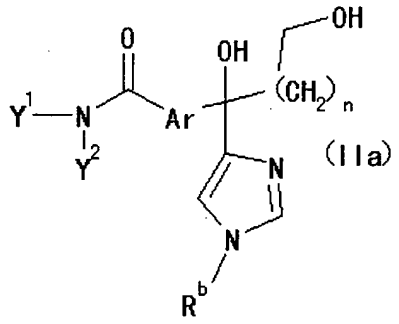
wherein each symbol is defined above or a salt thereof in the presence of a metal hydride complex and a metal halide compound.

6. (ORIGINAL) A process for producing a compound represented by the general formula (Ia):



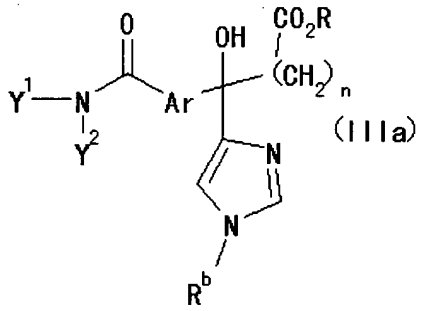
(Ia)

wherein R is an ester residue, Ar is an aromatic hydrocarbon group which may have a substituent, Y1 and Y2 are, the same or different and independently, a hydrogen atom or a substituent, Rb is a protection group, n is an integer of 1 to 3 or a salt thereof, which comprises obtaining a compound represented by the general formula (IIa):



(IIa)

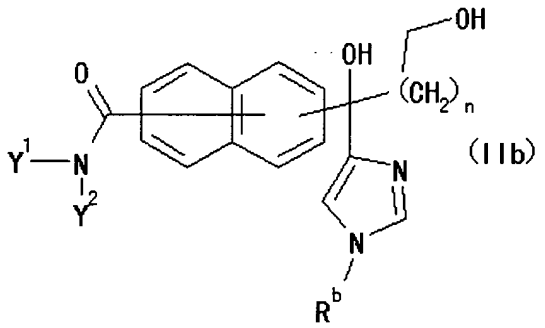
wherein each symbol is defined above or a salt thereof by reducing a compound represented by the general formula (IIIa):



(IIIa)

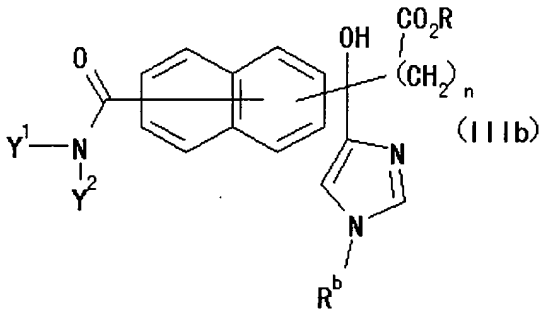
wherein each symbol is defined above or a salt thereof in the presence of a metal hydride complex and a metal halide compound, and then subjecting the compound represented by the general formula (IIa) to a ring-closing reaction.

7. (ORIGINAL) A process for producing a compound represented by the general formula (IIb):



(IIb)

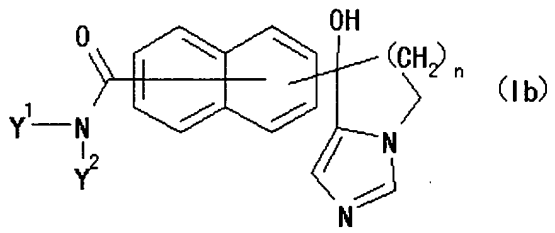
wherein R is an ester residue, Y1 and Y2 are, the same or different and independently, a hydrogen atom or a substituent, Rb is a protection group, n is an integer of 1 to 3 or a salt thereof, which comprises reducing a compound represented by the general formula (IIIb):



(IIIb)

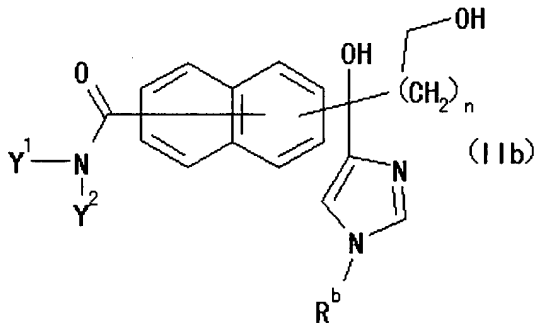
wherein each symbol is defined above or a salt thereof in the presence of a metal hydride complex and a metal halide compound.

8. (ORIGINAL) A process for producing a compound represented by the general formula (Ib):



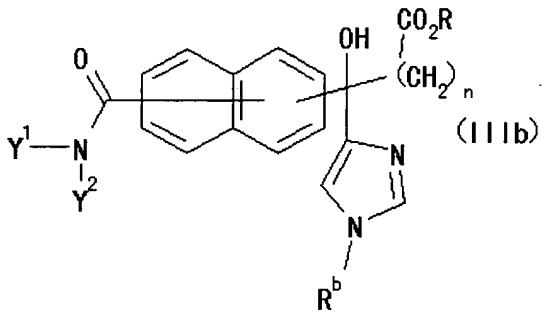
(Ib)

wherein R is an ester residue, Y1 and Y2 are, the same or different and independently, a hydrogen atom or a substituent, Rb is a protection group, n is an integer of 1 to 3 or a salt thereof, which comprises obtaining a compound represented by the general formula (IIb):



(IIb)

wherein each symbol is defined above or a salt thereof by reducing a compound represented by the general formula (IIIb):



(IIIb)

wherein each symbol is defined above or a salt thereof in the presence of a metal hydride complex and a metal halide compound, and then subjecting the compound represented by the general formula (IIb) to a ring-closing reaction.

9. (ORIGINAL) The process according to claim 2, wherein the metal hydride complex is an alkali metal hydride complex.

10. (ORIGINAL) The process according to claim 9, wherein the alkali metal hydride complex is sodium borohydride.

11. (ORIGINAL) The process according to claim 2, wherein the metal halide is a calcium halide.

12. (ORIGINAL) The process according to claim 11, wherein the calcium halide is calcium chloride.

13. (AMENDED) The process according to claim 1 ~~or 2~~, wherein ether and alcohol are used as a solvent in a reduction reaction.

14. (ORIGINAL) The process according to claim 13, which comprises adding alcohol to a reaction system in ether as a solvent.

15. (AMENDED) The process according to claim 13 ~~or 14~~, wherein the ether is a cyclic ether and the alcohol is C1-6 alcohol.

16. (ORIGINAL) The process according to claim 15, wherein the cyclic ether is tetrahydrofuran and the C1-6 alcohol is ethanol or methanol.

17. (ORIGINAL) A process for producing a primary alcohol, which comprises selectively reducing (i) an esterified carboxyl group and (ii) an esterified carboxy group of a compound having an N-unsubstituted amido group or an N-monosubstituted amido group in an ether-alcohol solvent in the presence of metal hydride complex and a calcium halide.

18. (ORIGINAL) The process according to claim 17, which comprises adding alcohol to a reaction system in ether as a solvent.

19. (ORIGINAL) The process according to claim 17, wherein the metal hydride complex is an alkali metal hydride complex.

20. (ORIGINAL) The process according to claim 17, wherein the calcium halide is calcium chloride.

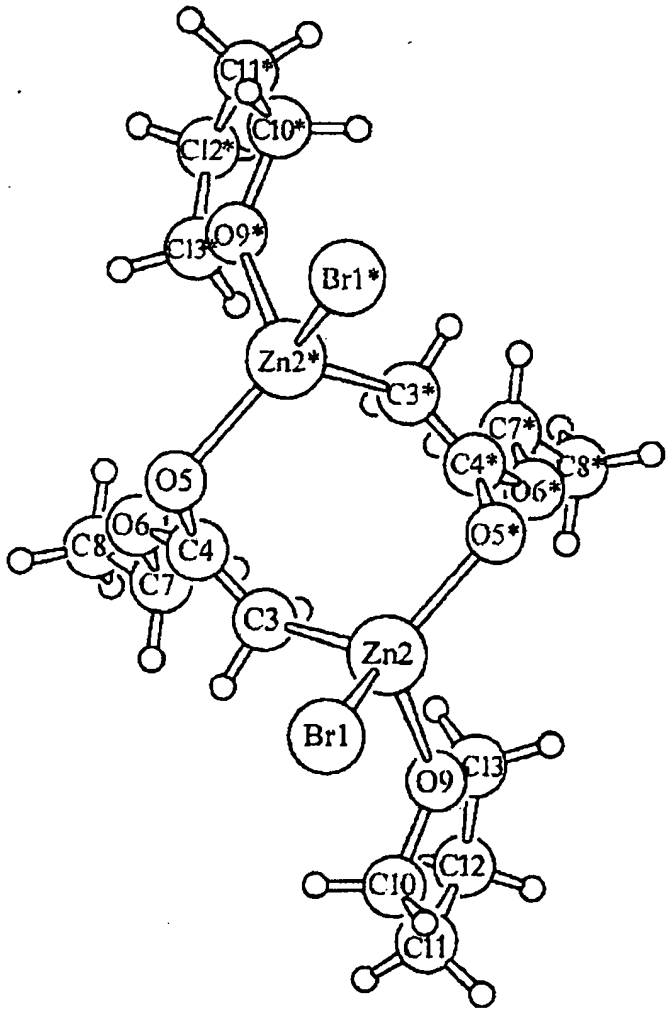
21. (ORIGINAL) The process according to claim 17, wherein the metal hydride complex is sodium borohydride, the calcium halide is calcium chloride, the ether is tetrahydrofuran and the alcohol is ethanol or methanol.

22. (ORIGINAL) A crystal of ethyl bromozincacetate to which tetrahydrofuran (THF) coordinates.

23. (ORIGINAL) The crystal of the compound according to claim 22, which is represented by a formula (BrZnCH2COOC2H5·THF)2.

24. (ORIGINAL) The crystal of the compound according to claim 22, which has peaks at 2983, 2897, 1589, 1446, 1371, 1286, 1070, 1022, 858 and 769 (cm-1) by IR.

25. (ORIGINAL) The crystal of the compound according to claim 22, which has a structure determined by an X-ray crystallography:



wherein the bond length of Br(1)–Zn(2) is 2.334 Å, the bond length of Zn(2)–C(3) is 1.996 Å, the bond length of Zn(2)–O(5) is 2.029 Å, the bond length of Zn(2)–O(9) is 2.049 Å, the bond length of C(3)–C(4) is 1.21 Å, the bond length of C(4)–O(5) is 1.47 Å, the bond length

of C(4)–O(6) is 1.33 Å, the bond length of O(6)–C(7) is 1.46 Å, the bond length of C(7)–C(8) is 1.41 Å, the bond length of O(9)–C(10) is 1.42 Å, the bond length of C(9)–C(13) is 1.42 Å, the bond length of C(10)–C(11) is 1.49 Å, the bond length of C(11)–C(12) is 1.37 Å, and the bond length of C(12)–C(13) is 1.42 Å; and the bond angle of Br(1)–Zn(2) –C(3) is 112.4°, the bond angle of Br(1)–Zn(2)–O(5) is 122.5°, the bond angle of Br(1)–Zn(2)–O(9) is 105.0°, the bond angle of C(3)–Zn(2)–O(5) is 109.9°, the bond angle of C(3)–Zn(2)–O(9) is 91.3°, the bond angle of O(5)–Zn(2)–O(9) is 111.2°, the bond angle of Zn(2)–C(3)–C(4) is 129.6°, the bond angle of C(3)–C(4)–O(5) is 125°, the bond angle of C(3)–C(4)–O(6) is 120.6°, the bond angle of O(5)–C(4)–O(6) is 113°, the bond angle of Zn(2)–O(5)–C(4) is 108.1°, the bond angle of C(4)–O(6)–C(7) is 116°, the bond angle of O(6)–C(7)–C(8) is 111°, the bond angle of Zn(2)–O(9)–C(10) is 122.6°, the bond angle of Zn(2)–O(9)–C(13) is 122.8°, the bond angle of C(10)–O(9)–C(13) is 109.7°, the bond angle of O(9)–C(10)–C(11) is 104°, the bond angle of C(10)–C(11)–C(12) is 108°, the bond angle of C(11)–C(12)–C(13) is 109°, and the bond angle of O(9)–C(13)–C(12) is 106°.

26. (ORIGINAL) A process for producing a crystal of a compound represented by a formula (BrZnCH2COOC2H5·THF)2, which comprises reacting a compound represented by a formula BrZnCH2COOC2H5 and tetrahydrofuran (THF).

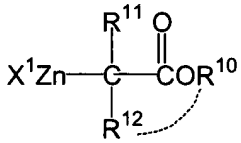
27. (ORIGINAL) The process according to claim 26, which comprises dissolving a compound represented by a formula BrZnCH2COOC2H5 in tetrahydrofuran (THF), and forming a crystal of the compound represented by a formula (BrZnCH2COOC2H5·THF)2.

28. (ORIGINAL) The process according to claim 26, which comprises dissolving a compound represented by a formula BrZnCH2COOC2H5 in 1,2-dimethoxyethane or cyclopentyl methyl ether, adding tetrahydrofuran (THF) to the resulting solution, and forming a crystal of the compound represented by a formula (BrZnCH2COOC2H5·THF)2.

29. (ORIGINAL) The process according to claim 26, which comprises reacting the compound represented by a formula BrCH2COOC2H5 and an excess amount of zinc relative to the compound represented by a formula BrCH2COOC2H5 in a solvent selected from a group consisting of 2-methyltetrahydrofuran, 1,2-dimethoxyethane and cyclopentyl methyl ether or a mixed solvent in any combination of two or more of them in the presence of an activating agent, adding THF to the resulting solution, and forming a crystal of the compound represented by a formula (BrZnCH2COOC2H5·THF)2.

30. (ORIGINAL) A crystal of a compound obtained by the process according to claim 26.

31. (ORIGINAL) A process for producing a compound represented by the general formula (V):



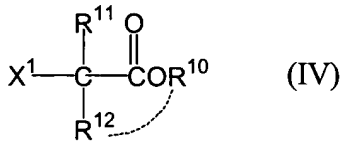
(V)

wherein X1 is a bromine atom or an iodine atom; and

R11 and R12 are, the same or different and independently, a hydrogen atom, an aliphatic hydrocarbon group which may have a substituent, an alicyclic hydrocarbon group which

may have a substituent, a heterocyclic group which may have a substituent, an aromatic hydrocarbon group which may have a substituent, an aromatic heterocyclic group which may have a substituent, and R10 is an ester residue; or

R11 is a hydrogen atom, an aliphatic hydrocarbon group which may have a substituent, an alicyclic hydrocarbon group which may have a substituent, a heterocyclic group which may have a substituent, an aromatic hydrocarbon group which may have a substituent, an aromatic heterocyclic group which may have a substituent, and R10 and R12, taken together with the atom to which they are bonded, form a lactone ring which may have a substituent, which comprises reacting a compound represented by the general formula (IV):



(IV)

wherein X1, R10, R11 and R12 are the same as defined above with zinc in a solvent selected from a group consisting of 2-methyltetrahydrofuran, 1,2-dimethoxyethane, cyclopentyl methyl ether and tetrahydrofuran, or in a mixed solvent in any combination of two or more of them in the presence of an activating agent, wherein zinc exists in an excess amount relative to the compound represented by the general formula (IV).

32. (ORIGINAL) The process according to claim 31, wherein zinc exists in an amount more than 1 gram atom and 50 gram atoms or less relative to one mole amount of the compound represented by the general formula (IV).

33. (ORIGINAL) The process according to claim 31, wherein R10 is a methyl group or an ethyl group.

34. (ORIGINAL) The process according to claim 31, wherein the solvent is cyclopentyl methyl ether.

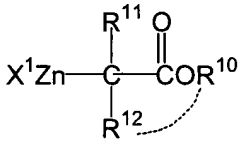
35. (ORIGINAL) The process according to claim 31, wherein the solvent is tetarahydrofuran.

36. (ORIGINAL) The process according to claim 31, wherein the activating agent is selected from halogen, copper halide, silver halide, 1,2-dihalogenethane, halogen alkylsilane and molecular sieves, wherein halogen is chloride, bromide or iodide.

37. (ORIGINAL) The process according to claim 36, wherein the activating agent is halogen alkylsilane.

38. (ORIGINAL) The process according to claim 37, wherein the activating agent is chlorotrimethylsilane.

39. (ORIGINAL) A solution of a compound represented by the general formula (V):



(V)

wherein X1 is a bromine atom or an iodine atom; and

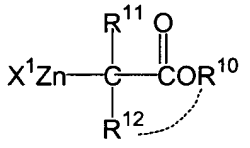
R11 and R12 are, the same or different and independently, a hydrogen atom, an aliphatic hydrocarbon group which may have a substituent, an alicyclic hydrocarbon group which

may have a substituent, a heterocyclic group which may have a substituent, an aromatic hydrocarbon group which may have a substituent, an aromatic heterocyclic group which may have a substituent, and R10 is an ester residue; or

R11 is a hydrogen atom, an aliphatic hydrocarbon group which may have a substituent, an alicyclic hydrocarbon group which may have a substituent, a heterocyclic group which may have a substituent, an aromatic hydrocarbon group which may have a substituent, an aromatic heterocyclic group which may have a substituent, and R10 and R12, taken together with the atom to which they are bonded, form a lactone ring which may have a substituent, in 1,2-dimethoxyethane or cyclopentyl methyl ether.

40. (ORIGINAL) A solution of ethyl bromozincacetate in 1,2-dimethoxyethane or cyclopentyl methyl ether.

41. (ORIGINAL) A process for stabilizing a compound represented by the general formula (V):



(V)

wherein X1 is a bromine atom or an iodine atom; and

R11 and R12 are, the same or different and independently, a hydrogen atom, an aliphatic hydrocarbon group which may have a substituent, an alicyclic hydrocarbon group which may have a substituent, a heterocyclic group which may have a substituent, an aromatic hydrocarbon group which may have a substituent, an aromatic heterocyclic group which may have a substituent, and R10 is an ester residue; or

R11 is a hydrogen atom, an aliphatic hydrocarbon group which may have a substituent, an alicyclic hydrocarbon group which may have a substituent, a heterocyclic group which may have a substituent, an aromatic hydrocarbon group which may have a substituent, an aromatic heterocyclic group which may have a substituent, and R10 and R12, taken together with the atom to which they are bonded, form a lactone ring which may have a substituent, by using 1,2-dimethoxyethane or cyclopentyl methyl ether.

42. (ORIGINAL) Use of a crystal of the compound according to claim 22 in a step of producing a compound by a Reformatsky reaction.

43. (NEW) The process according to claim 2, wherein the ring B is a heterocyclic ring which may have a substituent and one to three heteroatoms arbitrarily selected from a nitrogen atom, a sulfur atom and an oxygen atom other than the nitrogen atom indicated in the formula.

44. (NEW) The process according to claim 3, wherein the ring B is a heterocyclic ring which may have a substituent and one to three heteroatoms arbitrarily selected from a nitrogen atom, a sulfur atom and an oxygen atom other than the nitrogen atom indicated in the formula.

45. (NEW) The process according to claim 2, wherein ether and alcohol are used as a solvent in a reduction reaction.

46. (NEW) The process according to claim 45, which comprises adding alcohol to a reaction system in ether as a solvent.

47. (NEW) The process according to claim 14, wherein the ether is a cyclic ether and the alcohol is C1-6 alcohol.

48. (NEW) The process according to claim 45, wherein the ether is a cyclic ether and the alcohol is C1-6 alcohol.

49. (NEW) The process according to claim 46, wherein the ether is a cyclic ether and the alcohol is C1-6 alcohol.